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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/851,576	05/10/2001	Yao-Ching Su	ADTP0033USA	3197

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MERRIFIELD, VA 22116

EXAMINER

MACCHIAROLO, PETER J

ART UNIT	PAPER NUMBER
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2875

DATE MAILED: 12/17/2002

5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/851,576

Applicant(s)

SU ET AL.

Examiner

Peter J Macchiarolo

Art Unit

2875

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 16-18 is/are rejected.
- 7) ☐ Claim(s) 7, 10, 13, 15, 16 and 18-20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. A substitute specification in proper idiomatic English and in compliance with 37 CFR 1.52(a) and (b) is required. Further, the instant specification contains several misspelled words, such as in line 17 on page 10, "sinmultanelusly" is interpreted as "simultaneously." The substitute specification filed must be accompanied by a statement that it contains no new matter.

3. The Specification entered on 7-16-2001 is objected to because it lacks the proper headings.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables

having more than 50 pages of text are permitted to be submitted on compact discs.) or

REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)

(e) BACKGROUND OF THE INVENTION.

(1) Field of the Invention.

(2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.

(f) BRIEF SUMMARY OF THE INVENTION.

(g) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).

(h) DETAILED DESCRIPTION OF THE INVENTION.

(i) CLAIM OR CLAIMS (commencing on a separate sheet).

(j) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).

(k) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Objections

4. Claims 7, 10, 13, 16 and 18 are objected to because of the following informalities: the common limitation in the claims, "...far from the...sustaining electrode" is unclear. The Examiner is interpreting the limitation to read, "...not contiguous to the end of the...sustaining electrode." Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In regard to claim 1, lines 9-11 are unclear, specifically, the first and second sides of the first sustaining electrode are indeterminate. The Examiner cannot ascertain the limitation wording, and is therefore relying mainly on the drawings to define the first and second side of the first sustaining electrode to conduct a reasonable search for prior art. However, the Examiner suggests changing the wording of the limitation so one does not have to rely on the drawings to understand the definition of the first and second side of the first sustaining electrode.

Claims 2-8 are included because of their dependency.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

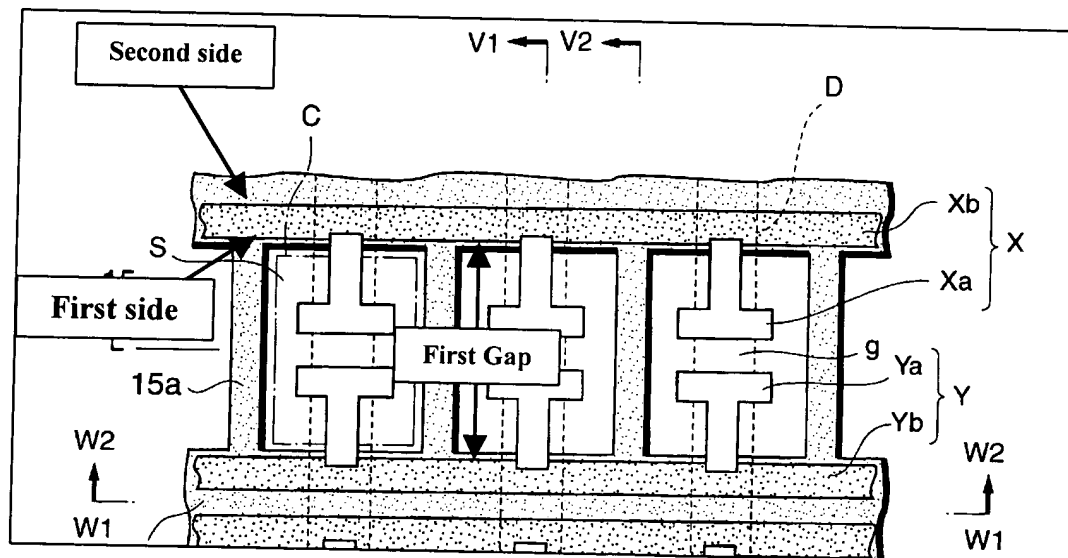
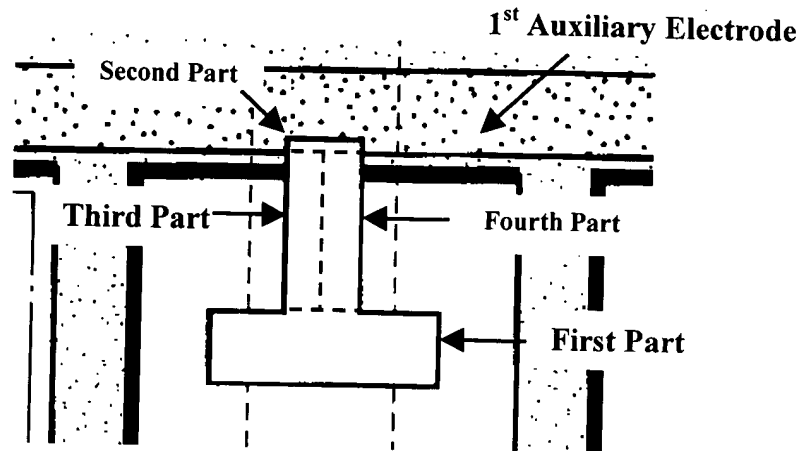
6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 1-13, and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koshio et al. (USPN 6,465,956).

In regard to claim 1, Koshio teaches in figures 1 and 2, an electrode structure of a plasma display panel with a first sustaining electrode (Xb) and a second sustaining electrode (Yb) set on the surface of the front substrate (10), and a first gap (shown below) existing between the first and second sustaining electrodes, the first sustaining electrode having a first side (shown below) approaching to the second sustaining electrode and a second side (shown below) far from the second sustaining electrode; and a first auxiliary electrode (Xa) electrically connected to the first sustaining electrode, the first auxiliary electrode comprising a first part (shown below) and a second part (shown below), the first part formed in the first gap (shown below) and the second part located above the first sustaining electrode; wherein a second gap (g) exists between the first part of the first auxiliary electrode and the second sustaining electrode, and the width of the second gap is smaller than the width of the first gap.

Koshio does not specifically disclose the second part of the auxiliary electrode is adjacent to the first side of the first sustaining electrode.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the second part of the auxiliary electrode adjacent to the first side of the first sustaining electrode, since it is well known in the art that modifying the edge of the auxiliary electrode to be adjacent to the first side of the first sustaining electrode is a design choice, and one of ordinary skill in the art will recognize that making the auxiliary electrode adjacent to the first side of the sustaining electrode will save on material, and will lower the overall cost of manufacturing.



In regard to claim 2, Koshio teaches all of the recited limitations of claim 1 (above). Koshio further teaches in figure 1 that the first auxiliary electrode further comprises a third part (shown above) approaching to the second side of the first sustaining electrode.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct an electrode structure according to claim 1 (above), further comprising a third part on the first auxiliary electrode which approaches the second side of the first sustaining electrode, since Koshio teaches this configuration improves the fineness for a picture being displayed on the panel (column 2, lines 32-33).

In regard to claim 3, Koshio teaches all of the recited limitations of claim 2 (above). Koshio further teaches in figure 1 that the third part of the first auxiliary electrode is on the first sustaining electrode.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct an electrode structure according to claim 2 (above), further comprising the third part of the first auxiliary electrode is on the first sustaining electrode, since Koshio teaches this configuration improves the fineness for a picture being displayed on the panel (column 2, lines 32-33).

In regard to claim 4, Koshio teaches all of the recited limitations of claim 2 (above). Koshio further teaches in figure 1 that the third part of the first auxiliary electrode is on the surface of the front substrate.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct an electrode structure according to claim 2 (above), further comprising the third part of the first auxiliary electrode is on the surface of the front substrate,

since Koshio teaches this configuration improves the fineness for a picture being displayed on the panel (column 2, lines 32-33).

In regard to claim 5, Koshio teaches all of the recited limitations of claim 2 (above). Koshio further teaches in figures 2 and 10 that a back substrate (figure 2, element 13) is parallel to the front substrate and a plurality of ribs (figure 10, element 35b) formed on the back substrate and parallel to each other, and the plurality of ribs are perpendicular to the first auxiliary electrode.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct an electrode structure according to claim 2 (above), further comprising a plurality of ribs formed on the back substrate and parallel to each other but perpendicular to the first auxiliary electrode, since Koshio teaches this configuration improves the fineness for a picture being displayed on the panel (column 2, lines 32-33).

In regard to claim 6, Koshio teaches all of the recited limitations of claim 5 (above). Koshio further teaches in figures 2 and 10 that the first auxiliary electrode further comprises a fourth part parallel to the ribs.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct an electrode structure according to claim 2 (above), further comprising a plurality of ribs formed on the back substrate and parallel to each other but perpendicular to the first auxiliary electrode, since Koshio teaches this configuration improves the fineness for a picture being displayed on the panel (column 2, lines 32-33).

In regard to claim 7, Koshio teaches all of the recited limitations of claim 1 (above). Koshio further teaches in figure 2 that the second sustaining electrode comprises a third side (the edge of Yb') which is not contiguous to the first sustaining electrode, and the electrode structure also comprises a second auxiliary electrode (Ya) approaching to the third side of the second sustaining electrode.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct an electrode structure according to claim 1 (above), further comprising a third side on the second sustaining electrode which is not contiguous to the first sustaining electrode, and the electrode structure also comprises a second auxiliary electrode approaching to the third side of the second sustaining electrode, since Koshio teaches this configuration improves the fineness for a picture being displayed on the panel (column 2, lines 32-33).

In regard to claim 8, Koshio teaches all of the recited limitations of claim 1 (above). Koshio further teaches in column 7 lines 47-50 and 58-67 that the first and the second sustaining electrodes are defined and patterned by a first lithographic process, and the first auxiliary electrode is defined and patterned by a second lithographic process.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct an electrode structure according to claim 1 (above), further comprising the first and the second sustaining electrodes being defined and patterned by a first lithographic process, and the first auxiliary electrode being defined and patterned by a second

lithographic process, since Koshio teaches this configuration improves the fineness for a picture being displayed on the panel (column 2, lines 32-33).

In regards to claim 9, Koshio teaches in figures 1 and 2, an electrode structure of a plasma display panel with a first sustaining electrode (Xb) and a second sustaining electrode (Yb) formed on the front substrate (10), and a first gap (shown above) existing between the first and second sustaining electrodes; and a first auxiliary electrode (Xa) formed on the surface of the substrate in the first gap; wherein a second gap (g) exists between the first auxiliary electrode and the second sustaining electrode.

Koshio does not specifically disclose a width of the second gap is smaller than a width of the first gap.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the electrode structure of claim 9, further wherein the second gap is smaller than a width of the first gap, since Koshio teaches that this configuration improves the fineness for a picture being displayed on the panel (column 2, lines 32-33).

In regards to claim 10, Koshio teaches all of the recited limitations of claim 9 (above). Koshio further teaches in figure 1 that the first sustaining electrode comprises a first side approaching to the second sustaining electrode and a second side not contiguous to the second sustaining electrode, the first auxiliary electrode comprises a first part and a second part, the first part is formed in the first gap, and the second part is located approaching to the second side of the first sustaining electrode.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct an electrode structure according to claim 9 (above), further comprising a first sustaining electrode comprising a first side approaching to the second sustaining electrode and a second side not contiguous to the second sustaining electrode and the first auxiliary electrode comprising a first part and a second part and the first part is formed in the first gap and the second part is located approaching to the second side of the first sustaining electrode, since Koshio teaches this configuration improves the fineness for a picture being displayed on the panel (column 2, lines 32-33).

In regards to claim 11, Koshio teaches all of the recited limitations of claim 10 (above). Koshio further teaches in figure 1 that the second part of the first auxiliary electrode is formed above the first sustaining electrode.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct an electrode structure according to claim 10 (above), further where the second part of the first auxiliary electrode is formed above the first sustaining electrode, since Koshio teaches this configuration improves the fineness for a picture being displayed on the panel (column 2, lines 32-33).

In regards to claim 12, Koshio teaches all of the recited limitations of claim 10 (above). Koshio further teaches in figure 1 that the second part of the first auxiliary electrode is formed on the surface of the front substrate.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct an electrode structure according to claim 10 (above), further comprising the third part of the first auxiliary electrode is on the first sustaining electrode, since Koshio teaches this configuration improves the fineness for a picture being displayed on the panel (column 2, lines 32-33).

In regards to claim 13, Koshio teaches all of the recited limitations of claim 9 (above). Koshio further teaches in figure 1 that the second sustaining electrode comprises a third side not contiguous to the first sustaining electrode, and the electrode structure further comprises a second auxiliary electrode approaching to the third side of the second sustaining electrode.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct an electrode structure according to claim 10 (above), further according to claim 13, since Koshio teaches this configuration improves the fineness for a picture being displayed on the panel (column 2, lines 32-33).

In regards to claim 16, Koshio teaches all of the recited limitations of claim 9 (above). Koshio further teaches in figure 1 that the first sustaining electrode comprises a first side approaching to the second sustaining electrode and a second side not contiguous to the second sustaining electrode, and the first auxiliary electrode is formed on the surface of the front substrate and adjacent to the first side of the first sustaining electrode.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct an electrode structure according to claim 9 (above), further

according to claim 16, since Koshio teaches this configuration improves the fineness for a picture being displayed on the panel (column 2, lines 32-33).

In regards to claim 17, Koshio teaches in figures 1 and 2, an electrode structure of a plasma display panel with a first sustaining electrode (Yb) formed on the surface of the front substrate (10); a first auxiliary electrode (Xa) formed on the surface of the front substrate and parallel to the first sustaining electrode (Yb), a first gap existing between the first sustaining electrode and the first auxiliary electrode; and a second auxiliary electrode (Ya) formed on the front substrate and parallel to the first sustaining electrode, a second gap existing between the first sustaining electrode (Yb) and the second auxiliary electrode (Ya), and the width of the second gap being smaller than the width of the first gap.

Koshio does not specifically disclose a width of the second gap.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the electrode structure of claim 9, further wherein the second gap is smaller than a width of the first gap, since Koshio teaches that this configuration improves the fineness for a picture being displayed on the panel (column 2, lines 32-33).

8. Claims 14, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koshio et al. (USPN 6,465,956) in view of Nagano (USPN 6,031,329).

In regards to claim 14, Koshio teaches all of the recited limitations of claim 9 (above).

Koshio is silent to the electrode structure comprising a third auxiliary electrode.

However, Nagano teaches in figure 1 an electrode structure for a plasma display panel comprising a third auxiliary electrode located in a first gap, and a third gap existing between a third auxiliary electrode and a first sustaining electrode; wherein the width of the third gap is smaller than the width of the first gap.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the electrode structure according to claim 17 (above), further with a third auxiliary electrode located in a first gap, and a third gap existing between a third auxiliary electrode and a first sustaining electrode further wherein the width of the third gap is smaller than the width of the first gap, since Nagano teaches in column 3 lines 39-42 that this configuration with a third auxiliary electrode improves light emission contrast without encountering a significant increase in the power dissipation and heat generation.

In regards to claim 18, Koshio teaches all of the recited limitations of claim 17 (above). Koshio further teaches in figure 1 that the first sustaining electrode comprises a first side approaching to the second auxiliary electrode and a second side not contiguous to the end of second auxiliary electrode.

Koshio is silent to the electrode structure comprising a third auxiliary electrode.

However, Nagano teaches in figure 1 an electrode structure for a plasma display panel comprising a third auxiliary electrode adjacent to the second side of the first sustaining electrode.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the electrode structure according to claim 17 (above), further with a third auxiliary electrode adjacent to the second side of the first sustaining

electrode, since Nagano teaches in column 3 lines 39-42 that this configuration with a third auxiliary electrode improves light emission contrast without encountering a significant increase in the power dissipation and heat generation.

Conclusion

9. Claims 15, 19, and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In regard to claim 15, the best prior art of record fails to motivate or disclose a structure according to claim 14 wherein the first auxiliary electrode is electrically connected to the first sustaining electrode, and the third auxiliary electrode is electrically connected to the second sustaining electrode.

In regard to claim 19, the best prior art of record fails to motivate or disclose a structure according to claim 18 wherein a connecting electrode is formed between the first and the second auxiliary electrode.

In regard to claim 20, the best prior art of record fails to motivate or disclose a structure according to claim 18 wherein a fourth auxiliary electrode is formed on the surface of the front substrate.

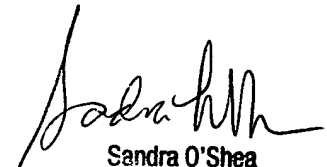
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J Macchiarolo whose telephone number is (703) 305-7198. The examiner can normally be reached on 8 - 4:30, M-F.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (703) 305-4939. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

pjm
December 3, 2002



Sandra O'Shea
Supervisory Patent Examiner
Technology Center 2800